



199 (0xc7) *ifnonnull*

200 (0xc8) *goto\_w*

201 (0xc9) *jsr\_w*

*\_quick* opcodes:

203 (0xcb) *ldc\_quick*

204 (0xcc) *ldc\_w\_quick*

205 (0xcd) *ldc2\_w\_quick*

206 (0xce) *getfield\_quick*

207 (0xcf) *putfield\_quick*

208 (0xd0) *getfield2\_quick*

209 (0xd1) *putfield2\_quick*

210 (0xd2) *getstatic\_quick*

211 (0xd3) *putstatic\_quick*

212 (0xd4) *getstatic2\_quick*

213 (0xd5) *putstatic2\_quick*

214 (0xd6) *invokevirtual\_quick*

215 (0xd7) *invokenonvirtual\_quick*

216 (0xd8) *invokesuper\_quick*

217 (0xd9) *invokestatic\_quick*

218 (0xda) *invokeinterface\_quick*

219 (0xdb) *invokevirtualobject\_quick*

221 (0xdd) *new\_quick*

222 (0xde) *anewarray\_quick*

223 (0xdf) *multianewarray\_quick*

224 (0xe0) *checkcast\_quick*

225 (0xe1) *instanceof\_quick*

226 (0xe2) *invokevirtual\_quick\_w*

227 (0xe3) *getfield\_quick\_w*

228 (0xe4) *putfield\_quick\_w*

Reserved opcodes:

202 (0xca) *breakpoint*

254 (0xfe) *impdep1*

255 (0xff) *impdep2*

---

[Contents](#) | [Prev](#) | [Next](#) | [Index](#)

Java Virtual Machine Specification

Copyright © 1996, 1997 Sun Microsystems, Inc. All rights reserved

Please send any comments or corrections to [jvm@java.sun.com](mailto:jvm@java.sun.com)

[Contents](#) | [Prev](#) | [Next](#) | [Index](#)*The Java™ Virtual Machine Specification*

---

**CHAPTER 10****Opcode Mnemonics by Opcode**

---

0 (0x00) *nop*  
1 (0x01) *aconst\_null*  
2 (0x02) *iconst\_m1*  
3 (0x03) *iconst\_0*  
4 (0x04) *iconst\_1*  
5 (0x05) *iconst\_2*  
6 (0x06) *iconst\_3*  
7 (0x07) *iconst\_4*  
8 (0x08) *iconst\_5*  
9 (0x09) *lconst\_0*  
10 (0x0a) *lconst\_1*  
11 (0x0b) *fconst\_0*  
12 (0x0c) *fconst\_1*  
13 (0x0d) *fconst\_2*  
14 (0x0e) *dconst\_0*  
15 (0x0f) *dconst\_1*  
16 (0x10) *bipush*  
17 (0x11) *sipush*  
18 (0x12) *ldc*  
19 (0x13) *ldc\_w*  
20 (0x14) *ldc2\_w*

21 (0x15) *iload*  
22 (0x16) *lload*  
23 (0x17) *fload*  
24 (0x18) *dload*  
25 (0x19) *aload*  
26 (0x1a) *iload\_0*  
27 (0x1b) *iload\_1*  
28 (0x1c) *iload\_2*  
29 (0x1d) *iload\_3*  
30 (0x1e) *lload\_0*  
31 (0x1f) *lload\_1*  
32 (0x20) *lload\_2*  
33 (0x21) *lload\_3*  
34 (0x22) *fload\_0*  
35 (0x23) *fload\_1*  
36 (0x24) *fload\_2*  
37 (0x25) *fload\_3*  
38 (0x26) *dload\_0*  
39 (0x27) *dload\_1*  
40 (0x28) *dload\_2*  
41 (0x29) *dload\_3*  
42 (0x2a) *aload\_0*  
43 (0x2b) *aload\_1*  
44 (0x2c) *aload\_2*  
45 (0x2d) *aload\_3*

46 (0x2e) *iaload*  
47 (0x2f) *laload*  
48 (0x30) *faload*  
49 (0x31) *daload*  
50 (0x32) *aaload*  
51 (0x33) *baload*  
52 (0x34) *caload*  
53 (0x35) *saload*  
54 (0x36) *istore*  
55 (0x37) *lstore*  
56 (0x38) *fstore*  
57 (0x39) *dstore*  
58 (0x3a) *astore*  
59 (0x3b) *istore\_0*  
60 (0x3c) *istore\_1*  
61 (0x3d) *istore\_2*  
62 (0x3e) *istore\_3*  
63 (0x3f) *lstore\_0*  
64 (0x40) *lstore\_1*  
65 (0x41) *lstore\_2*  
66 (0x42) *lstore\_3*  
67 (0x43) *fstore\_0*  
68 (0x44) *fstore\_1*  
69 (0x45) *fstore\_2*  
70 (0x46) *fstore\_3*  
71 (0x47) *dstore\_0*



72 (0x48) *dstore\_1*  
73 (0x49) *dstore\_2*  
74 (0x4a) *dstore\_3*  
75 (0x4b) *astore\_0*  
76 (0x4c) *astore\_1*  
77 (0x4d) *astore\_2*  
78 (0x4e) *astore\_3*  
79 (0x4f) *iastore*  
80 (0x50) *lastore*  
81 (0x51) *fastore*  
82 (0x52) *dastore*  
83 (0x53) *aastore*  
84 (0x54) *bastore*  
85 (0x55) *castore*  
86 (0x56) *sastore*  
87 (0x57) *pop*  
88 (0x58) *pop2*  
89 (0x59) *dup*  
90 (0x5a) *dup\_x1*  
91 (0x5b) *dup\_x2*  
92 (0x5c) *dup2*  
93 (0x5d) *dup2\_x1*  
94 (0x5e) *dup2\_x2*  
95 (0x5f) *swap*  
96 (0x60) *iadd*

97 (0x61) *ladd*  
98 (0x62) *fadd*  
99 (0x63) *dadd*  
100 (0x64) *isub*  
101 (0x65) *lsub*  
102 (0x66) *fsub*  
103 (0x67) *dsub*  
104 (0x68) *imul*  
105 (0x69) *lmul*  
106 (0x6a) *fmul*  
107 (0x6b) *dmul*  
108 (0x6c) *idiv*  
109 (0x6d) *ldiv*  
110 (0x6e) *fdiv*  
111 (0x6f) *ddiv*  
112 (0x70) *irem*  
113 (0x71) *lrem*  
114 (0x72) *frem*  
115 (0x73) *drem*  
116 (0x74) *ineg*  
117 (0x75) *lneg*  
118 (0x76) *fneg*  
119 (0x77) *dneg*  
120 (0x78) *ishl*  
121 (0x79) *lshl*  
122 (0x7a) *ishr*

123 (0x7b) *lshr*  
124 (0x7c) *iushr*  
125 (0x7d) *lushr*  
126 (0x7e) *iand*  
127 (0x7f) *land*  
128 (0x80) *ior*  
129 (0x81) *lor*  
130 (0x82) *ixor*  
131 (0x83) *lxor*  
132 (0x84) *iinc*  
133 (0x85) *i2l*  
134 (0x86) *i2f*  
135 (0x87) *i2d*  
136 (0x88) *l2i*  
137 (0x89) *l2f*  
138 (0x8a) *l2d*  
139 (0x8b) *f2i*  
140 (0x8c) *f2l*  
141 (0x8d) *f2d*  
142 (0x8e) *d2i*  
143 (0x8f) *d2l*  
144 (0x90) *d2f*  
145 (0x91) *i2b*  
146 (0x92) *i2c*  
147 (0x93) *i2s*



148 (0x94) *lcmp*  
149 (0x95) *fcmpl*  
150 (0x96) *fcmpg*  
151 (0x97) *dcmpl*  
152 (0x98) *dcmpg*  
153 (0x99) *ifeq*  
154 (0x9a) *ifne*  
155 (0x9b) *iflt*  
156 (0x9c) *ifge*  
157 (0x9d) *ifgt*  
158 (0x9e) *ifle*  
159 (0x9f) *if\_icmpeq*  
160 (0xa0) *if\_icmpne*  
161 (0xa1) *if\_icmplt*  
162 (0xa2) *if\_icmpge*  
163 (0xa3) *if\_icmpgt*  
164 (0xa4) *if\_icmple*  
165 (0xa5) *if\_acmpeq*  
166 (0xa6) *if\_acmpne*  
167 (0xa7) *goto*  
168 (0xa8) *jsr*  
169 (0xa9) *ret*  
170 (0xaa) *tableswitch*  
171 (0xab) *lookupswitch*  
172 (0xac) *ireturn*  
173 (0xad) *lreturn*



174 (0xae) *freturn*  
175 (0xaf) *dreturn*  
176 (0xb0) *areturn*  
177 (0xb1) *return*  
178 (0xb2) *getstatic*  
179 (0xb3) *putstatic*  
180 (0xb4) *getfield*  
181 (0xb5) *putfield*  
182 (0xb6) *invokevirtual*  
183 (0xb7) *invokespecial*  
184 (0xb8) *invokestatic*  
185 (0xb9) *invokeinterface*  
186 (0xba) *xxxunusedxxx*  
187 (0xbb) *new*  
188 (0xbc) *newarray*  
189 (0xbd) *anewarray*  
190 (0xbe) *arraylength*  
191 (0xbf) *athrow*  
192 (0xc0) *checkcast*  
193 (0xc1) *instanceof*  
194 (0xc2) *monitorenter*  
195 (0xc3) *monitorexit*  
196 (0xc4) *wide*  
197 (0xc5) *multianewarray*  
198 (0xc6) *ifnull*